Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 7, Issue, 12, pp.23721-23724, December, 2015

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

OPIOID OVERDOSE: KNOWLEDGE AND PRACTICES AMONG HEALTH CARE PROVIDERS IN MEGHALAYA

***,[1]Dr. Himashree Bhattacharyya, [2]Adorinia Nongrum and [3]Dr. Apurba Marak**

[1] Assistant Professor, Department of Community Medicine, NEIGRIHMS, Shillong
[2]Research Officer, Regional Technical Training Centre, Project HIFAZAT, NEIGRIHMS, Shillong
[3]In Charge District Leprosy Society, East Khasi Hills, Shillong

ARTICLE INFO

Article History:
Received 05th September, 2015
Received in revised form
10th October, 2015
Accepted 07th November, 2015
Published online 21st December, 2015

Key words:

Opioid,
Overdose,
Knowledge,
Practices.

ABSTRACT

Introduction: Opioid overdose occurs when a person takes opioid or opioid in combination with other drugs, in quantities that body cannot handle. Overdose is one of the commonest causes of death among opioid users. With the rising number of drug users in our state, incidences of drug overdose is bound to increase.

Objectives: 1. To find out the number and profile of overdose cases presenting to different Health Care institutions under this study.2.To find out the knowledge and practices of Health Care Providers on overdose management.

Methodology: The present study is a cross sectional study conducted in selected districts of Meghalaya for a period of one year. A total of 20 centres were taken up for data collection. Doctors, nurses and para medical staff were the study respondent. Pre-designed questionnaire was used for data collection.

Results: From the 20 centers, a total number of 114 respondents were enrolled for questionnaire section. Regarding the knowledge on overdose 101 (88.59%) could properly define the meaning of overdose. Only 41(36%) of the respondent had treated overdose cases. Only 66 (58%) respondents were aware about the correct dosage of naloxone Regarding the drug used to revive an overdose case most of the respondents 61 (53%) replied that they would use Naloxone. However Only 21 (18%) of respondents had undergone any training on overdose management. There are about 80 reported cases of overdose with the mean age of 28 years. Out of the 80 overdose cases 17 (21%) cases were fatal. Only 25 (31%) overdose cases were reported to the police.

***Citation*:** Dr. Himashree Bhattacharyya, Adorinia Nongrum and Dr. Apurba Marak, 2015. "Opioid overdose: Knowledge and practices among health care providers in Meghalaya", *International Journal of Current Research*, 7, (12), 23721-23724.

INTRODUCTION

Illicit drug use has increased dramatically in many parts of the world, and associated with this has been a rise in drug overdoses. Drug overdose is a major cause of premature death among people, who use opioid drugs such as heroin, and non-fatal opioid overdose is commonplace in some settings. (Ravindra and Alpna, 2012) Although data are limited, an estimated 70,000-100,000 people die from opioid overdose each year. Opioid overdose was the main cause of the estimated 99,000- 253,000 deaths worldwide related to illicit drug use in 2010. (Shane and Wayne, 2003) It is estimated that there are 177,000 IDUs in India, Among IDUs who use Opioids, especially among those who inject heroin, overdose and associated death is an urgent issue. (Opioid overdose, 2013)

* ***Corresponding author: Dr. Himashree Bhattacharyya,***
Department of Community Medicine, NEIGRIHMS, Shillong

Overdose occurs when a person takes Opioid in combination with other drugs, in quantities that the body cannot handle. The person may pass out and stop breathing, and in extreme cases, have a heart failure, or experience convulsions. Overdose can be fatal, and is one of the common cause of death among Opioid dependent users (Gregory *et al*., 2010). Longitudinal studies of people who inject drugs are critical for assessing the magnitude, nature and correlates of the risk of death in this population. Opiate overdose can be reversed by administering naloxone, an opiate antagonist. Timely administration of naloxone, an effective antagonist for opioid overdose supported by fast and efficient resuscitation measures revives the cases in vast majority of cases. (http://www.unodc.org/southasia/en/frontpage/2013/Nov/india-saving-lives-through-drug-overdose-management.html)

As per the district-wise statistic of drug abuse in Meghalaya, Jaintia Hills is the most affected district with 5398 (1.36%) users mainly in the age group of 18 - 35 years. This is followed

by East Khasi Hills with 5113 (0.61%) users, 2397 (0.92%) in Ri Bhoi, 1525 (0.39%) in West Khasi Hills, 1500 (0.47%) in East Garo Hills, 1100 (0.17%) in West Garo Hills and 800 (0.56%) in South Garo Hills. (http://www.ohmeghalaya.com/suicide-drugs-abuse-among-the-youths-have-increased-east-khasi-hills-sp) There are a total of 17, 833 drug users in the state with current population of 2,966,889 (0.6%). Among these people, opioids have been seen to be the commonest drug abused. With the rising number of drug users in our state, incidences of drug overdose is bound to increase. (Meghalaya Population census 2011)

Objectives

- To find out the number and profile of overdose cases presenting to different Health Care institution under this study.
- To find out the knowledge and practices by Health Care Providers in response to overdose cases.
- To find out the knowledge, availability and usage of Naloxone in treating overdose cases.

METHODOLOGY

Setting

Meghalaya is located on $25^0 – 26.15^0$ East Longitude consisting of 11 Districts. Tribal people make up the majority of Meghalaya's population. The Khasi's are the largest group, followed by the Garos.

The present study is a Cross Sectional study conducted in East Khasi Hills, Jaintia Hills, Ri–Bhoi District and Garo Hills of Meghalaya. A total of 20 centers were taken up for data collection which included private and government hospitals, Targeted Intervention sites and Paramedic unit.(108 Emergency Unit). The study was conducted for a period of one year from March 2014 to April 2015.

Methodology

The sampling followed was a purposive sampling and the study population consisted of All available Doctors, Nurses, Staff at the Emergency Unit and the Staff at the TI sites available during the Morning, Afternoon and Night Shift located at the East Khasi Hills, Jaintia Hills, Ri –Bhoi District and West Garo Hills of Meghalaya. We included all the participants who were willing and voluntarily gave consent to participate in the study. A pre designed questionnaire was used for data collection. This questionnaire was divided into 2 sections, namely Questionnaire Section and the patient data section. The questionnaire section included data relating to doctor, nursing staff at the emergency unit in the hospitals, staff at the Targeted Intervention Site and Paramedic unit for assessing the knowledge and practices in handling overdose cases. The patient data section consists of records of opioid overdose cases from all the above mentioned Health Care Centers from March 2011- March 2014. Informed Consent was taken from each individual and a face to face interview was conducted.

Ethics

Ethical clearance from the Ethics Committee of the Institute was taken prior to the conduct of the study. Written Permission to conduct the study was also taken from the Meghalaya AIDS Control Society, The Directorate of Health Services, Meghalaya, all the hospitals and the Targeted Intervention sites which were visited. All interviewees had provided written informed consent before being interviewed whereby the informed consent form was read out aloud or thoroughly explained to the respondent before carrying forward with the study. All Data collected was kept confidential and was used for this study purpose only.

Analysis

After Data was collected, it was coded and analysed using SPSS 20.0 by descriptive analysis. Chi Square test was used to test association between different variables.

RESULTS

From the 20 centers, a total number of 114 respondents were enrolled for questionnaire section. From government hospital there were 22 (19%) participants, 46 (40%) from private hospitals, 42(37%) from targeted intervention sites and 4 (4%) from paramedic unit.

Regarding the knowledge on overdose, 101 (88.59%) could properly define the meaning of overdose whereas 13 (11%) of respondents were not able to do so. On being questioned about the causes leading to an overdose, 75 (65%) respondents thought overdose to be due to excessive dose, 26 (23%) respondents thought that overdose occurs due to multiple drug use and 13 (11%) did not know about it. A significant difference was observed in this knowledge parameter between the government hospitals, Private hospitals and TI sites (Chi Sq=19.5, df=2, $p<0.0001$). As per the question regarding the initial steps in managing an opioid overdose case, majority decided checking pulse and breathing 47 (41%) as the first thing they would do, followed by call for medical help 34 (30%) and anti dote or drug administration 33 (29%). Most of the respondents 86 (75%) had been taught about recovery position which is one of the most important basic steps to ensure that the respiratory tract will not be obstructed by vomitus and patency of respiratory tract is maintained while the remaining 28 (25%) were not aware of the recovery position. A significant difference has been observed in the responses from government, private and TI sites with the TI sites having more knowledge about the recovery position. (Chi Sq=54.1, df=2, $p<0.0001$) In our study only 41(36%) of the respondent had treated overdose cases. Out of these 17 (15%) respondents had treated at least 1overdose case, 20 (17%) had treated 1 -5 cases, 4 (4%) had treated 5-10 cases and no one has treated > 5 cases. In our study, we observed that most of the respondents from TI sites and private hospitals had treated overdose cases in comparison to those from government hospitals (Chi Sq=12.372, df=2; $p=0.0021$). Regarding the drug used to revive an overdose case, most of the respondents 61 (53%) replied that they would use Naloxone, Buprenorphine 1(1%), Intravenous Atropine 1(%), any antidote available at the time 7(6%) and N-autyllyrtine 1(1%).

Table 1. Table showing the knowledge & practice parameters in relation to the government, private and TI sites

Knowledge & Practices on Overdose	Government (n=22)	Private (n=46)	TI sites (n=46)	Chi Square; p value
Knows the meaning of Overdose (101)	14 (63.63%)	41 (89.13%)	46 (100%)	Chi Sq=19.500, df=2; P<0.0001
Knows the causes of Overdose (101)	14 (63.63%)	41 (89.13%)	46 (100%)	Chi Sq=19.500, df=2; P<0.0001
Knows the recovery position (86)	4 (18.18%)	41 (89.13%)	43 (93.47%)	Chi Sq=54.168, df=2;p<0.0001
Have treated an overdose victim (41)	2 (9.09%)	15 (32.60%)	24 (52.17%)	Chi Sq=12.372, df=2;p=0.0021
Knows the drug used to recover an overdose victim (71)	9 (40.90%)	28 (60.86%)	34 (73.91%)	Chi Sq=6.966;df=2, p=0.0307
Used naloxone (14)	0	4 (8.69%)	10 (21.73%)	Chi Sq=7.449, df=2;p=0.0241
Knows the correct dose of naloxone (66)	6 (27.27%)	21 (45.65%)	39 (84.78%)	Chi Sq=29.934, df=2;p<0.0001
Have undergone training on Overdose (21)	0	6 (13.04%)	15 (32.60%)	Chi Sq=12.014, df=2;p=0.00245

43 (38%) participants were not able to mention any drug used to recover an overdose victim. In our study, only 14 (12.28%) of the respondents used naloxone at some point of time to revive an overdose case out of which 10 are from TI sites only. On being enquired about the correct dose of naloxone to administer to an overdose case, 66 (58%) mentioned it as 0.4 -2 mg at 2-3 min interval which is the correct dose, the remaining 48 (42%) respondents were incorrect. Out of the respondents who could mention the correct dose of naloxone most are from TI sites in comparison to government hospitals which was also statistically significant. (Chi Sq=29.9, df=2, p<0.0001). Out of the 20 centers visited only 5 centers (40%) had naloxone available to treat an overdose victim. Among the respondent only (21)18 % had undergone training on overdose management. Out of these 21(18%), 12(11%) had in-house training and 9(8%) underwent harm reduction training. There was a very good response of 80% participants who liked to contact for future training.

Medical Record Department Data

From the 20 centers where data was collected only 9 centers had reported overdose cases from the period of March 2011-2014. There are about 80 reported cases of overdose with 59 Males and 21 Females with the mean age of 28 years. Out of the 80 overdose cases 17 (21%) cases were fatal. Only 25 (31%) overdose cases were reported to the police.

DISCUSSION

Though there are sufficient literature on the number of overdose cases and deaths in different contexts, there is practically no data on the knowledge and practices among health care staff in managing overdose cases in different settings. In the United States (US) accidental drug overdose, from both legal and illegal drugs, ranks second only to car accidents as the leading cause of accidental death. (Drug Policy Alliance, 2009) In Russia 7,500 drug users died from overdoses linked to illicit drug use in 2006 (Curtis *et al*., 2009). The situation is similar in India. The leading cause of mortality in the city of Chennai among People who inject drugs is drug overdose, outranking HIV and other infections (Solomon *et al*., 2005-2008) while a study in Manipur reported reported that one third of drug users had experienced a drug overdose in their lifetime. (Eicher *et al*., 2000)

In our study, a total of 80 overdose cases were documented over a period of three years (March 2011-March2014). This gives an average of 27 overdose case per year. In a study called PROJECT ORCHID, conducted in Manipur and Nagaland states of North East where there was systematic data collection of overdose cases, Nagaland reported 10 overdose cases in 2009-10, 8 in 2010-11 and 27 cases in 2011-12. This roughly correlates with the findings of our study. However, Manipur reported more number of cases with 64 cases in 2009-10, 131 cases in 2010-11 and 262 cases in 2011-12. [12]According to reports from the Department of Health and Family Welfare, Government of Mizoram, 328 cases of overdose and 13 deaths due to overdose have been reported in Mizoram between November 2012 and July 2013. (http://www.unodc.org/southasia/en/frontpage/2013/Nov/india-saving-lives-through-drug-overdose) Looking at the number of drug abusers in the state we have observed from our study that there are less number of reported overdose cases. This may be due to the reason that overdose cases usually do not present to the health institution for various reason like stigma, fear of police or society. Moreover, registers for reported overdose cases is not maintained in the health institutions which can lead to under reporting of cases. In our study, we found that all the health care providers had a fair knowledge on drug overdose and its management. A very few number of respondents (36%) had actually treated a case of overdose or had used naloxone. A significant difference in knowledge and practices parameters were observed between the government hospitals and private sectors and TI sites. Availability of naloxone was also limited in health care setting of Meghalaya.

Conclusion

With regard to the knowledge and practice levels, most of the respondents specially in the government sector had a lesser knowledge compared to the private sector and TI sites. There seems to be a high demand for training on Overdose management among the respondents from all the sectors as most of them had expressed their willingness to undertake such a training so as to increase their knowledge and skills on

overdose management. These issues needs to be addressed. Naloxone must be made available at the Health Care Centres. Moreover, All the Heath Centres should maintain proper records for drug overdose cases so as to obtain a baseline data on the prevalence of overdose cases in this region.

Acknowledgement

Sincere thanks and appreciation to Dr. Star Pala, Associate Prof, Community Medicine, all the Medical Superintendants of hospitals visited, TI sites and all the respondents who made this study possible.

REFERENCES

Curtis M *et al*. 2009. Overdose Prevention and Response: A guide for people who use drugs and harm reduction staff in Eastern Europe and Central Asia. New York, United States.

Document, 2012. In Time: Drug overdose management in Manipur and Nagaland. PROJECT ORCHID. Avahan India AIDS Inititative, Emmanuel Hospital Association and the Nossal Institute for Global Health.

Drug Policy Alliance, 2009. Preventing Overdose, Saving Lives. Strategies for combating a National Crisis. Drug Policy Alliance, New York, United States.

Eicher A *et al*. 2000. A certain fate: spread of HIV among young injecting drug users in Manipur, North East India. AIDS Care 12 (4):497-504.

Gregory A, K Michelle, S Charan, L Biangtung, C Nick. Opioid substitution therapy in manipur and nagaland, north-east india: operational research in action. Harm Reduct J. 2010; 7: 29.Available from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3003202/. Assessed on November 3, 2014.

India: *Saving lives through drug overdose management* [Online] Available from: http://www.unodc.org/southasia/en/frontpage/2013/Nov/india-saving-lives-through-drug-overdose-management.html. [Accessed on 23rd November 2014]

Meghalaya Population census 2011 [Online] Available from: http://www.citypopulation.de/php/india-meghalaya.php. [Accessed on 26th November 2014]

Opioid overdose: preventing and reducing opioid overdose mortality: UNODC/WHO 2013; 1. Available from www.unodc.org/docs/treatment/overdose.pdf. Assessed on September 23, 2013

Ravindra R., M Alpna. Opioid Overdose Prevention and Management for Injecting Drug Users: United Nations of Drugs and Crime, Regional Office for South Asia 2012; 1. Assessed on September 22, 2013

Shane D, H Wayne. Heroin Overdose: Research and Evidence-Based Intervention: Journal of Urban Health: Bulletin of the New York Academy of Medicine 2003 (80) 189 Available from http://www.ihra.net/files/2010/08/20/Darke_-_Heroin_Overdose.pdf.Assessedon November, 2013.

Solomon SS *et al*. 2005-2008. Mortality among Injection Drug Users in Chennai, India. AIDS 23 (8):997-1004.

The Shillong Times. *Awareness programme* [Online]. Available from: http://www.ohmeghalaya.com/suicide-drugs-abuse-among-the-youths-have-increased-east-khasi-hills-sp/. [Accessed on 16th October 2014]

****